

MECHATRONICS, Certificate - 4261

Engineering, Trades & Computer Technologies Department
CIP Code: 14.4201

Mechatronics is a multi-disciplinary program designed to provide students with the broad skill set required to maintain, repair, and manage the automated systems and machines used throughout industry. The certificate teaches students mechanical, electrical, electronic, fluid power, and control systems as they gain an understanding, through theory and hands-on experience, of how these systems integrate with one another. Graduates are prepared for positions in which maintaining, troubleshooting, repairing, and modifying the designs of automated systems and equipment is required. This certificate may be completed at the Gettysburg Campus through on-campus/in-person instruction.

Career Opportunities

Graduates find employment as multi-skilled technicians in industrial, manufacturing, and commercial settings.

(SOC Code: 49-9041 Industrial Machinery Mechanics)

Competency Profile

This curriculum is designed to prepare students to:

- Interpret and apply workplace Safety Standards
- Read drawings, wire and troubleshoot AC and DC electrical circuits
- Read drawings, install, maintain and troubleshoot basic motor controls
- Read blueprints, assemble, maintain and troubleshoot mechanical systems
- Read drawings, construct, maintain and troubleshoot hydraulic and pneumatic systems
- Program, wire and troubleshoot sensors and basic programmable logic control (PLC) systems

PROGRAM REQUIREMENTS (TOTAL CREDITS =31)

General Education	Major Requirements		Other Required Courses	
	ELOC 153 Fundamentals of Electricity	4	CIS 105 Introduction to Software for Business	3
	GTEC 101 Safety & Health in Workplace	3		
	IA 101 Introduction to Automation	2		
	IA 107 Shop Measurement & Calculations*	1		
	IA 108 Power Transmission	4		
	IA 110 Fluid Power	4		
	IA 201 Motors & Controls I	4		
	IA 208 PLC's and Automation	3		
	IA 221 Sensor Technology	3		
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*May be replaced with a higher-level MATH offering.

RECOMMENDED SEQUENCE FOR FULL-TIME STUDENTS

Part time students can complete this program by taking one or more courses each semester.

Fall Semester I		Spring Semester I	
ELOC 153	4	CIS 105	3
GTEC 101	3	IA 110	4
IA 101	2	IA 201	4
IA 107*	1	IA 208	3
IA 108	4	IA 221	3